

**NEW YORK/ NEW JERSEY EDUCATION AND RESEARCH CENTER FOR OCCUPATIONAL  
SAFETY AND HEALTH SUMMARY ANNUAL REPORT**

July 1, 2010 – June 30, 2011  
NIOSH Training Grant  
No. T42 OH 008422

SUBMITTED BY:  
Philip J. Landrigan, MD, MSc  
CENTER DIRECTOR  
Mount Sinai School of Medicine  
New York, NY 10029  
*and*  
Mitchel A. Rosen, MS  
CENTER DEPUTY DIRECTOR  
UMDNJ-School of Public Health  
Piscataway, NJ 08854

**October 2011**

## **NEW YORK/NEW JERSEY EDUCATION AND RESEARCH CENTER ANNUAL REPORT**

**(July 1, 2010 – June 30, 2011)**

ERC DIRECTOR: Philip J. Landrigan, MD, MSc, Mount Sinai School of Medicine

ERC DEPUTY DIRECTOR, Mitchel A. Rosen, MS, UMDNJ-School of Public Health

UOSHERC, the Universities Occupational Safety and Health Education and Research Center (a/k/a NY/NJ ERC), is a consortium of five educational institutions ([www.nynjerc.org](http://www.nynjerc.org)) offering ten programs in occupational health and safety training. Our constituent programs are:

- Industrial Hygiene and Hazardous Substance Academic Training (HSAT) at Hunter College School of Health Sciences (New York City, NY);
- Occupational Medicine at Mount Sinai School of Medicine (New York City, NY);
- Occupational Medicine at the University of Medicine and Dentistry of New Jersey (UMDNJ)/Robert Wood Johnson Medical School (Piscataway, NJ);
- Occupational Safety & Health Engineering at New Jersey Institute of Technology (Newark, NJ);
- Occupational Ergonomics and Biomechanics at New York University (NYC, NY).
- Continuing Education and Outreach and Hazardous Substance Training (HST) at UMDNJ- School of Public Health (Piscataway, NJ); and the
- Pilot Project Research Training Program and NORA Research Support Program at Mount Sinai School of Medicine (New York City, NY).

Philip Landrigan, MD, MSc Dean for Global Health and Chairman of the Department of Preventive Medicine at Mount Sinai School of Medicine, is Director of this ERC. Mitchel A. Rosen, MS, Director of the Office of Public Health Practice at UMDNJ-School of Public Health is Deputy Director. UOSHERC is administered by a core staff at Mount Sinai in conjunction with the ERC Management Committee, consisting of all ERC program directors.

Students and Residents Trained: During the 2010-11 grant year, UOSHERC trained a total of 79 students and residents in its academic-degree programs, of whom 25 were full-time students and 54 were part-time students. Twenty-three of the incoming students and residents, at least one in each core program, were underrepresented minority or disabled trainees. Twenty-five students and residents graduated: 12 in industrial hygiene, 5 in occupational medicine, 5 in safety engineering and 3 (MS only) in ergonomics. Of the 79 students, 28 (35 percent) received NIOSH funding. Our ERC Continuing Education program provided short-term training to 3,493 persons – 73 percent of attendees were from private industry; 16 percent from government agencies, and 11 percent from academia.

Highlights: The highlight of this year was our sixth annual ERC Interdisciplinary Northeast Occupational Safety and Health Tour. During the week of May 22-26, 2011, 17 ERC students and 8 faculty members (at least one from each of our NY/NJ ERC academic programs) traveled across the Northeastern U.S to visit industrial sites of current or historical health and safety interest. This year we visited industries engaged in coal mining, steel manufacturing, automobile assembly and transmissions, beryllium processing, hazardous waste clean-up.

UOSHERC held its 31st annual scientific conference on April 1, 2011 on “Emergency Response Since 9/11” featuring keynote speakers NIOSH Director Dr. John Howard and FDNY Commissioner Salvatore Cassano.

The annual ERC student research day was held on May 18, 2011.

The ERC offers two interdisciplinary courses: a Fall OSH seminar and a Spring plant visits course. The Site Visits course was lead by a new instructor, Norman Zuckerman, an industrial hygienist with the WTC Clinic at MSSM.

Industrial Hygiene and HSAT (Hunter): The Hunter Environmental and Occupational Health Sciences (EOHS) Program has 2 full-time and one part-time faculty line. Hunter College is now part of the newly formed CUN/Hunter School of Public Health, formed as a consortium of the public health programs at Hunter, Brooklyn,

and Lehman Colleges, and the CUNY Graduate Center. The CUNY/Hunter SPH offers an ABET-accredited Industrial Hygiene MS degree program and a CEPH-accredited MPH degree program in Environmental and Occupational Health Sciences (EOHS) at the Hunter College Campus. The doctoral program in EOHS was in its second year and had 10 students enrolled. In 2010-11, the MS-EOHS track had 38 students; 12 of those students graduated during this period. 17 of the 38 students (44 percent) were from underrepresented minority backgrounds. The HSAT Program represents a concentration within the MS-EOHS program. In 2010-11, five MS-EOHS students were enrolled in this concentration. All MS-EOHS graduates except two in the past year have found professional OSH employment.

Occupational Medicine (Mount Sinai and UMDNJ-RWJMS): Occupational Medicine (Mount Sinai and UMDNJ-RWJMS): The ERC has two occupational medicine residency programs: Mount Sinai School of Medicine (MSSM) and UMDNJ-Robert Wood Johnson Medical School (UMDNJ-RWJMS). The MSSM Program received full ACGME re-accreditation (five years) in October 2008. The UMDNJ program is up for re-accreditation in 2012. In 2010-2011, the MSSM Program had four OM residents and UMDNJ-RWJMS four. One of the four MSSM residents (25 percent), and two of the four RWJ residents (50 percent) were from underrepresented minorities. The UMDNJ program has four residents, all previously trained in internal or family medicine. One trainee graduated in 2010. Graduates: 4 of the last 5 are employed in Medical Center/Hospital occupational medicine program. UMDNJ is now opening a new field internship with Meridian Health Systems, a broad-based health system in eastern New Jersey with an OSH program for small employers. Jared Schulman, MD, MPH, a 2009 graduate at UMDNJ, will be the program's field supervisor. Talks on sharing field sites between the two programs are ongoing.

Occupational Safety and Health Engineering (NJIT): Dr. Sengupta and Dr. Olsen continue as Director and Associate Director of the OSHE program, respectively. The educational program resides within the Department of Mechanical and Industrial Engineering (MIE) and requires 36 credit hours of coursework for the degree, including a mandatory research-oriented thesis for NIOSH trainees. Seventeen students studied in the program in 2010-11, of whom five graduated. All five graduates are now working in the health and safety field (Travelers Insurance, Resource Management Concepts, Inc., Turner Construction Company & OnGuard Fence Systems, Ltd.). Eight of the 17 students in the program this year (47 percent) were from underrepresented minority backgrounds. One peer-reviewed conference paper published, and one student conference presentations this year were based on student research in the OSHE program. A major program focus in the future will be improvement of its research output.

Occupational Ergonomics and Biomechanics (ERBI) (NYU): The ERBI program had seven Masters students in 2010-11, of whom three graduated. Two of these graduates are now professionally employed, one as an ergonomics associate and one as an orthopedic surgeon. The third student is currently enrolled in the ERBI PhD program. Two of the seven Masters students were from underrepresented minority backgrounds. During 2010-11 ERBI faculty published 6 peer-reviewed articles, one of which resulted from NORA research support funds, and made seven conference presentations. Dr. Margareta Nordin, ERBI faculty, has updated the 4<sup>th</sup> edition of her book, Basic Biomechanics of the Musculoskeletal System. This book is now translated into 12 languages and students all over the world use it. All ERBI faculty members have been invited to author specific chapters in this book. In the future, ERBI will continue the objectives initiated in 2009-2010 to promote and improve ergonomics in health care, linking both patient and employee safety. A multidisciplinary group of interested ERBI faculty continues to explore further ERC collaboration that emphasizes translation of research findings into practical applications (r2p).

Continuing Education/HST (UMDNJ): NY/NJ ERC meets the continuing education and training needs of the occupational health and safety practitioners of New York, New Jersey and Puerto Rico. The CE/O Program, under Mitchel Rosen, MS, offered a total of 232 courses to 3,493 persons in 2010-11. Of the attendees 73.5 percent were from private industry, 15.7 percent from government and 10.7 percent from academic institutions. Fully 429 of those trained were clinicians (118 physicians and 311 nurses) and 209 were industrial hygienists. Seventy percent of the trainees were safety professionals. The HST Program works extensively with public

agencies in New Jersey and New York to provide hazardous materials training. From July 1, 2010 to June 30, 2011, 71 HST courses were offered to 1,063 students. Through the HST program 65 scholarships were awarded to public sector employees. Outreach: Faculty from the NY/NJ ERC were involved in a number of outreach efforts. Physicians from the occupational medicine programs have provided numerous interviews and lectures, based on their continued medical monitoring of responders from the WTC recovery site. UMDNJ partnered with the New Jersey Industrial Safety Committee (NJSISC) to offer combustible dust, excavation, and warehouse safety training. The NJSISC and the NJ Safety Council identified the need for this training through their needs assessments. As there are a large number of warehouses located in South Jersey, the one-day warehouse safety training was held in Millville, New Jersey. Mitchel Rosen continues to present OSH issues in two Rutgers University undergraduate courses. Also the UMDNJ-School of Public Health and the Hunter and NJIT AV Centers have hosted video teleconferencing for the ERC's interdisciplinary Site Visits course, assisted by funds from the NORA Research Training Program. Finally to enhance outreach, the ERC has developed a Facebook group to provide information about the ERC and its activities.

Pilot Project Research Training (PPRT) (Mount Sinai): The PPRT Program provides “seed money” to trainees and other researchers at the five institutions which make up this ERC, as well as to those at other institutions in Region II whose students or faculty wish to undertake occupational safety and health (OSH) research, such as the IH Program at the University of Puerto Rico, one of the two Training Program Grant (TPG) recipients in Region II. In 2010-11, a total of 8 project applications were received, and 7 were funded based on available funds. Applications were received from a range of ERC Region II institutions. The continued diversity of projects underscores the interdisciplinary approach fostered through the program. Of the funded projects, five were awarded to ERC trainees and two were awarded to ERC investigators who have the support of senior research faculty. Funded projects represent multiple NORA sectors and goals, and we continue to encourage research on the health and safety of workers in the Health Care and Social Assistance (HCSA) sector. Four of the projects directly involve study populations of HCSA workers. The two funded ergonomic projects have applicability to multiple NORA sectors, including HCSA, manufacturing, and construction, where issues of manual materials (or patient) handling and low back pain have particular relevance. Pilot project awardees from 2009-10 presented their research projects as posters during our ERC Scientific Meeting on April 1, 2011.

NORA Research Training Program (Mount Sinai): ERC coursework and research projects provide research training for graduate students, fellows and residents through this program. UMDNJ residents conducted studies on the health effects of diesel exhaust and on the determinants of needlestick exposures among hospital workers. Faculty at UMDNJ and at Mount Sinai have ongoing projects that provide opportunities for students to research influenza risk, vaccination, and respiratory personal protective equipment use among healthcare workers. NYU graduate students and faculty in cooperation with the NYU Dept. of Orthopedic Surgery continued their research on shoulder and scapula kinematics, comparing hospital patients, many of whose injuries were caused on the job, and healthy subjects. NJIT students and faculty conducted research on muscle fatigue and musculoskeletal disorders due to back loading and position, and also on ergonomic effects of hand tool use. Hunter College Masters' students were assisted by partial scholarship awards to complete their NORA-related thesis and capstone projects. At Mount Sinai, in keeping with the ERC's growing interest in interdisciplinary joint projects on OSH issues in healthcare workers, an occupational medicine resident developed a project with students from the NYU ergonomics program and Hunter's IH program to study work-related musculoskeletal disorders among ultrasonographers. This project is expanding to include industrial engineering students from NJIT. Remote training opportunities continue, e.g., UMDNJ hosted video teleconferences for the ERC plant visits course and streamed proceedings of the annual ERC Scientific Meeting.